

ELECTRICAL MEASUREMENTS & MEASURING INSTRUMENTS

3K-CSN-08

Time : 3 hrs.

M.M.: 100

Note :—

1. Part 'A' may be attempted in first 6 pages of Answer Sheet.
भाग 'क' के सभी उत्तर, उत्तर-पुस्तिका के प्रथम छः पृष्ठों में ही करने हैं।
2. Part 'B' in rest of the Sheets of Answer Sheet.
भाग 'ख' के उत्तर, उत्तर-पुस्तिका के अगले शेष पृष्ठों में लिखिये।
3. Answers may be given in English or Hindi.
प्रश्नों के उत्तर अंग्रेजी अथवा हिन्दी में दीजिये।

PART - 'A'**1. Attempt any ten questions : -****(10x2=20)**

- (a) What is sensitivity?
- (b) What are the steps to be taken for minimizing errors in PT.
- (c) What is the major cause of creeping error in an energy meter?
- (d) What is deflection in instrument?
- (e) Why is scale of MI instrument calibrated non-linearly?
- (f) Give one example of absolute instrument.
- (g) Write name of instrument used to measure power.
- (h) Classify resistance.
- (i) What are sources of error?
- (j) Classify recorders.
- (k) Differentiate between power and power factor.
- (l) Give an example of integrating instrument.
- (m) Write full form of KVA.
- (n) Define measuring instruments.

2. Attempt any five questions :**(5x4=20)**

- (a) With a neat diagram explain in detail moving iron attractive type instrument.
- (b) Explain x-y recorder with help of neat diagram.
- (c) Explain connection in the circuit of CT and PT for energy measurement.
- (d) Compare between ammeter and voltmeter.
- (e) Describe the construction and working of dual trace CRO.

- (f) What is the different testing conducted on a single phase energy meter?
- (g) Differentiate between a C.T. and P.T.
- (h) Explain briefly with help of neat diagrams the use of electronic multimeter.

PART- B

Attempt any three questions.

(3x20=60)

- 3. (a) Explain in detail Weston synchroscope.
(b) Explain working principle of digital frequency meter.
- 4. (a) Explain working principle of meggar.
(b) Explain eddy current damping with example.
- 5. (a) Explain construction, working principle and draw schematic diagram of strip chart recorders.
(b) Enlist advantages of FET voltmeter and digital voltmeters.
- 6. With neat diagram explain the following for single phase induction type energy meter.
(a) Construction
(b) Working principle
- 7. Write short note on any two :
(a) Schering bridge
(b) Anderson bridge
(c) Errors in energy meter
(d) Cable fault location

